

Name _____

Adding Fractions with Like Denominators

PS 10-2

Walk to School Each of these students lives close to school. They all walk to school and back home every day. Use the chart for 1–6. Simplify, if necessary.

Name	Distance from Home to School
Celina	$\frac{7}{8}$ mi
Omar	$\frac{2}{8}$ mi
Amy	$\frac{4}{8}$ mi
Touriq	$\frac{3}{8}$ mi
Jessica	$\frac{1}{8}$ mi

- How far do Celina and Omar walk altogether?

- How far do Omar and Amy walk altogether?

- How far do Amy and Touriq walk altogether?

- How far do Touriq and Jessica walk altogether?

- What fraction of students walk more than $\frac{1}{2}$ mi to school?

- What fraction of students walk more than $\frac{1}{4}$ mi to school?

- Writing in Math** Sinclair said that since you cannot simplify $\frac{1}{3}$ or $\frac{2}{3}$, you cannot simplify their sum. Is he correct? Explain.

Name _____

Number Search

E 10-2
NUMBER SENSE

Circle the fraction pairs that have a sum greater than 1. Pairs can be made across or up and down.

1.

$\frac{4}{6}$	$\frac{2}{6}$	$\frac{1}{6}$	$\frac{5}{6}$
$\frac{4}{6}$	$\frac{2}{6}$	$\frac{4}{6}$	$\frac{3}{6}$
$\frac{3}{6}$	$\frac{5}{6}$	$\frac{2}{6}$	$\frac{1}{6}$
$\frac{3}{6}$	$\frac{1}{6}$	$\frac{5}{6}$	$\frac{4}{6}$

2. What is the sum of all the fractions not circled in Exercise 1?

3.

$\frac{1}{8}$	$\frac{4}{8}$	$\frac{7}{8}$	$\frac{2}{8}$
$\frac{3}{8}$	$\frac{5}{8}$	$\frac{3}{8}$	$\frac{1}{8}$
$\frac{6}{8}$	$\frac{1}{8}$	$\frac{4}{8}$	$\frac{5}{8}$
$\frac{5}{8}$	$\frac{2}{8}$	$\frac{6}{8}$	$\frac{2}{8}$

4. What is the sum of all the fractions not circled in Exercise 3?

Name _____

Fraction Subtraction

E 10-5
NUMBER SENSE

Three of the fractions in each of the exercises below make a subtraction sentence. Work from left to right. Write a minus sign and an equal sign between the 3 fractions to make each subtraction sentence. Then circle each completed subtraction sentence. The first one has been done for you.

1. $\frac{1}{2}$ $\frac{3}{4} - \frac{1}{8} = \frac{5}{8}$ $\frac{7}{8}$ $\frac{1}{4}$

2. $\frac{1}{3}$ $\frac{4}{5}$ $\frac{5}{6}$ $\frac{2}{3}$ $\frac{1}{6}$ $\frac{5}{12}$

3. $\frac{7}{10}$ $\frac{3}{5}$ $\frac{5}{6}$ $\frac{4}{5}$ $\frac{1}{2}$ $\frac{3}{10}$

4. $\frac{2}{5}$ $\frac{3}{5}$ $\frac{1}{3}$ $\frac{4}{15}$ $\frac{4}{5}$ $\frac{7}{15}$

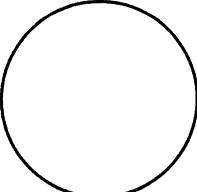
5. $\frac{7}{12}$ $\frac{1}{4}$ $\frac{1}{3}$ $\frac{2}{3}$ $\frac{10}{12}$ $\frac{3}{4}$

6. $\frac{3}{20}$ $\frac{7}{10}$ $\frac{9}{20}$ $\frac{1}{10}$ $\frac{7}{20}$ $\frac{9}{20}$

7. $\frac{1}{6}$ $\frac{6}{7}$ $\frac{1}{2}$ $\frac{5}{14}$ $\frac{3}{7}$ $\frac{5}{14}$

8. $\frac{8}{9}$ $\frac{8}{27}$ $\frac{16}{27}$ $\frac{1}{9}$ $\frac{7}{18}$ $\frac{2}{9}$

9. Subtract across and down to complete the fraction square.

$\frac{7}{8}$	$\frac{1}{4}$	
$\frac{1}{3}$	$\frac{1}{8}$	
		

Chapter 10A Review**Multiple Choice**

Identify the letter of the choice that best completes the statement or answers the question.

- _____ 1. Which sum is less than 1?
a. $\frac{1}{4} + \frac{4}{10}$ b. $\frac{2}{3} + \frac{3}{4}$ c. $\frac{6}{10} + \frac{9}{12}$ d. $\frac{9}{10} + \frac{4}{5}$
- _____ 2. Estimate to decide whether $\frac{3}{4} + \frac{5}{6}$ is greater than 1 or less than 1. If you cannot tell, explain why.
a. I cannot tell because $\frac{3}{4} < \frac{1}{2}$ and $\frac{5}{6} > \frac{1}{2}$.
b. I cannot tell because $\frac{3}{4} > \frac{1}{2}$ and $\frac{5}{6} < \frac{1}{2}$.
c. $\frac{3}{4} + \frac{5}{6} > 1$
d. $\frac{3}{4} + \frac{5}{6} < 1$
- _____ 3. Evelina walked $\frac{6}{10}$ of a mile and Taryn walked $\frac{4}{5}$ of a mile. Estimate to decide whether combined they walked more than 1 mile or less than 1 mile. If you cannot tell, explain why.
a. I cannot tell, because $\frac{6}{10} > \frac{1}{2}$ mile and $\frac{4}{5} < \frac{1}{2}$ mile.
b. Less than 1 mile.
c. I cannot tell, because $\frac{6}{10} < \frac{1}{2}$ mile and $\frac{4}{5} > \frac{1}{2}$ mile.
d. More than 1 mile
- _____ 4. Find the sum.
 $\frac{2}{12} + \frac{9}{12}$
a. $\frac{2}{24}$ b. $\frac{11}{12}$ c. $\frac{11}{24}$ d. $\frac{9}{12}$
- _____ 5. Find $\frac{9}{10} + \frac{1}{20}$.
a. $1\frac{1}{10}$ b. $1\frac{1}{20}$ c. $\frac{19}{20}$ d. $\frac{9}{10}$
- _____ 6. Shemaya ate $\frac{1}{8}$ of a plain bagel and $\frac{1}{3}$ of a poppy seed bagel. How much did she eat altogether?
a. $\frac{23}{24}$ of a bagel c. $\frac{2}{3}$ of a bagel
b. $\frac{7}{8}$ of a bagel d. $\frac{11}{24}$ of a bagel

Name: _____

ID: A

____ 7. Subtract $\frac{19}{20} - \frac{6}{20}$.

a. $1\frac{1}{20}$

b. $\frac{19}{20}$

c. $\frac{13}{20}$

d. $\frac{1}{20}$

____ 8. Find the difference. Simplify if possible.

$$\begin{array}{r} \frac{9}{10} \\ - \frac{1}{10} \\ \hline \end{array}$$

a. 1

b. $\frac{9}{10}$

c. $\frac{4}{5}$

d. $\frac{1}{10}$

____ 9. Subtract.

$$\frac{9}{10} - \frac{1}{10}$$

a. $1\frac{4}{5}$

b. $\frac{9}{10}$

c. $\frac{4}{5}$

d. $\frac{1}{5}$

____ 10. Ted is weaving a cloth that will be $\frac{7}{8}$ of a yard long. He has finished $\frac{3}{8}$ of a yard. How much more does he need to weave?

a. $\frac{7}{8}$ yard

b. $\frac{1}{2}$ yard

c. $\frac{1}{4}$ yard

d. $\frac{1}{8}$ yard

____ 11. Find the difference. Simplify if possible.

$$\begin{array}{r} \frac{7}{8} \\ - \frac{3}{4} \\ \hline \end{array}$$

a. $\frac{1}{8}$

b. $\frac{3}{4}$

c. $\frac{1}{12}$

d. $\frac{1}{4}$

____ 12. Find the difference. Simplify if possible.

$$\begin{array}{r} \frac{9}{10} \\ - \frac{1}{5} \\ \hline \end{array}$$

a. $\frac{7}{10}$

b. $\frac{1}{5}$

c. $\frac{4}{5}$

d. $\frac{1}{10}$

- ____ 13. A track and field competition included a $\frac{1}{2}$ -mile race and a $\frac{1}{6}$ -mile race. What was the difference in the lengths of the races?
- a. $\frac{1}{3}$ mile b. $\frac{1}{2}$ mile c. $\frac{5}{6}$ mile d. $\frac{1}{8}$ mile
- ____ 14. The names of four of the brightest stars in the sky in the northern hemisphere are Deneb, Spica, Capella, and Rigel.
- Deneb is brighter than Spica but not as bright as Rigel.
- Capella is less bright than Deneb.
- Which of the stars is brightest?
- a. Spica c. Rigel
b. Deneb d. Capella

Other

15. **Elevator Puzzle** Gary, Dennis, Zoie, and Yolanda are riding an elevator. Each person gets off the elevator at a different floor. Who gets off where? Use the clues to find out.

The elevator stops, in order, at the 5th, 6th, 8th, and 10th floor.

When Gary gets off, he says goodbye to Dennis.

Zoie is the last person to get off.

Yolanda gets off one floor after Gary.

Solve the problem in the space below.

Show All Work

Answers

Gary: ____ floor

Dennis: ____ floor

Zoie: ____ floor

Yolanda: ____ floor

Name _____

Subtracting Fractions with Unlike Denominators

PS 10-5

Students in Mrs. Baca's class measured the length of their hands from the base of their palms to the tips of their longest fingers. Give each answer in fractions of a foot. Simplify, if necessary.

Alison	$\frac{2}{5}$ ft
Bobby	$\frac{1}{2}$ ft
Marnie	$\frac{7}{10}$ ft
Jason	$\frac{3}{5}$ ft
Talleen	$\frac{2}{3}$ ft
Roberto	$\frac{2}{5}$ ft

1. How much longer is Bobby's hand than Alison's?

2. How much longer is Marnie's hand than Jason's?

3. How much longer is Talleen's hand than Alison's?

4. How much longer is Marnie's hand than Roberto's?

5. How much longer is Jason's hand than Bobby's?

6. **Writing in Math** Could you use 15 as a like denominator to subtract $\frac{5}{10}$ from $\frac{3}{5}$? Explain.

Name _____

Capacity and Customary Units

P 10-9

Choose the most appropriate unit or units to measure the capacity of each. Write tsp, tbsp, fl oz, c, pt, qt, or gal.

- | | |
|----------------------------|-----------------------------|
| 1. teacup _____ | 2. juice box _____ |
| 3. motor oil _____ | 4. pepper in a recipe _____ |
| 5. carton of creamer _____ | 6. lake _____ |

7. **Number Sense** Would a teaspoon be a good way to measure the capacity of a milk carton? Explain.

8. A refreshment jug for the baseball team holds 20 gal of water. To make an energy drink, 1 c of mix is used for every 2 gal of water. How many cups of the mix are needed to fill the jug with energy drink?

Test Prep

9. Which unit has the greatest capacity?

A. Tablespoon

B. Quart

C. Pint

D. Teaspoon

10. **Writing in Math** Cassidy says that capacity is the same as the amount. Do you agree? Explain why or why not.

Name _____

Weight and Customary Units

PS 10-10

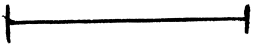
For 1–9, tell if you think each statement is true or false. If you think it is false, write the correct unit of weight.

1. A bunch of bananas should be measured in ounces. _____
2. An airplane should be measured in pounds. _____
3. A bag of potting soil should be measured in pounds. _____
4. A sofa should be measured in ounces. _____
5. An encyclopedia should be measured in ounces. _____
6. A truck should be measured in tons. _____
7. A mouse should be measured in pounds. _____
8. An elephant should be measured in tons. _____
9. A postcard should be measured in pounds. _____

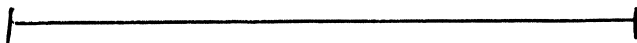
10. **Writing in Math** Name an example when it would be reasonable to measure something in either pounds or ounces. Explain.

*measure to the nearest $\frac{1}{4}$ inch.

①



②



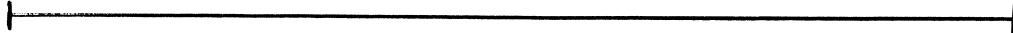
③



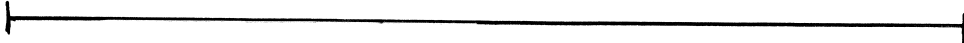
④



⑤



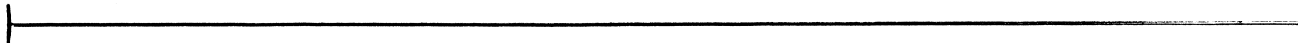
⑥



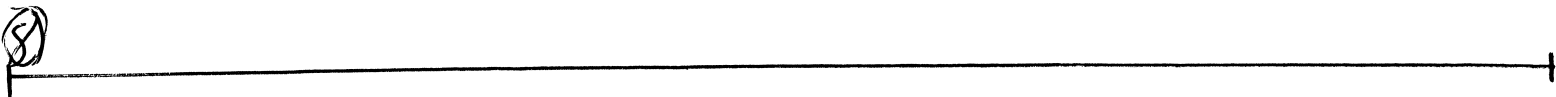
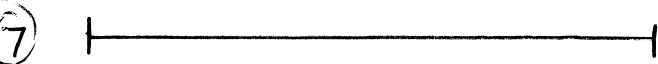
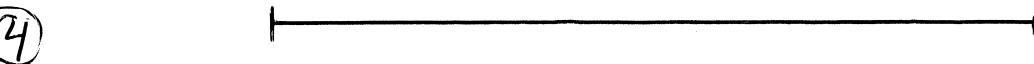
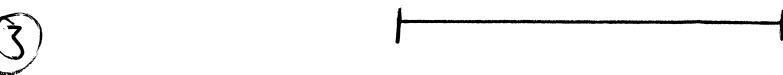
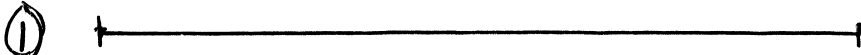
⑦



⑧



* measure to the nearest inch



Name _____

Changing Units and Comparing Measures

PS 10-11

Change customary units as necessary to solve 1–8.

1. Chris is 4 ft 11 in. tall. How tall is he in inches? _____
2. It is 3,520 yd from Mica's house to school.
How many miles is that? _____
3. Ben's aquarium holds 8 gal of water. How
many quarts is that? _____
4. Gina's dog weighs 5 lb. How many
ounces is that? _____
5. Marcy's room is 108 in. wide. How many
yards is that? _____
6. Which weighs more, 3 lb or 52 oz of flour?

7. Which is greater, 20 fl oz or 2 c of water?

8. Which is longer, a desk that measures 2 yd or a desk that
measures 70 in.? _____
9. **Writing in Math** An African bush elephant can weigh up to
8 T. Is that more than or less than 20,000 lb? Explain.

Name _____

Changing Units and Comparing Measures

P 10-11

Find each missing number.

1. 2 ft = _____ in.

2. 8 qt = _____ pt

3. 2 gal = _____ qt

4. 9 ft = _____ yd

5. 64 oz = _____ lb

6. 10,560 ft = _____ mi

7. 20 T = _____ lb

8. 4 lb, 6 oz = _____ oz

Compare. Write > or < for each .

9. 20 pt, 2 c 12 qt

10. 10 lb 200 oz

11. 13 ft, 6 in. 5 yd

12. 100 in. 2 yd

13. 3 gal 10 qt

14. 9 oz 9 lb

15. How many inches long is the longest car?

Car Records

Lightest car	21 lb
Heaviest car	7,353 lb
Longest car	100 ft

16. How many ounces does the lightest car weigh?

Test Prep

17. How many fluid ounces are in 6 c?

A. 32

B. 40

C. 48

D. 54

18. **Writing in Math** Explain why you cannot convert fluid ounces to pounds.

Name _____

PROBLEM-SOLVING APPLICATION

P 10-13

Measurements Abound!

Solve each problem. Write your answer in a complete sentence.

1. Ted has 20 ft of rope and Lou has 42 ft of rope. They need to have at least 12 yd of rope between the two of them. Do they have enough? Explain your answer.

2. Arnold, Cathy, Derrick, and Eldon each have a different pet. They have a dog, a cat, a bird, and an iguana. Arnold is allergic to anything with fur. Cathy's pet can say some words, and likes to eat sunflower seeds. Derrick does not have a cat. What kind of animal is Eldon's pet?

Christie runs every morning before school. This week she ran $\frac{2}{3}$ mi each on Monday, Wednesday, and Thursday. She ran $\frac{1}{2}$ mi on Tuesday and $\frac{7}{9}$ mi on Friday.

3. How far did Christie run on Monday, Wednesday, and Thursday combined?

4. Christie wants to run at least 3 mi each week. Did she meet her goal this week? Explain how you decided.

8. Which is the most reasonable unit to measure the capacity of a bathtub?
a. cup c. quart
b. gallon d. pint
9. Which is the most appropriate unit to measure the capacity of a medicine bottle?
a. cup c. gallon
b. quart d. fluid ounces
10. Lake Michigan is one of the five Great Lakes in North America. Which is the most appropriate unit to measure the capacity of water in the lake?
a. quart c. cup
b. gallon d. pint
11. Pounds would be the most appropriate unit for measuring the weight of which object?
a. a paper clip c. frog
b. an airplane d. bag of sugar
12. Which is the most appropriate tool to measure the weight of a dog?
a. yard stick c. ruler
b. quart jar d. scale
13. Which is the most appropriate unit to measure the weight of a blue whale?
a. ton c. quart
b. pound d. ounce
14. Find the missing number.
4 yards = _____ inches
a. 12 b. 48 c. 144 d. 400
15. Find the missing number.
16 fl oz = _____ c
a. 2 b. 4 c. 8 d. 32
16. Sute's cat weighs 9 pounds 8 ounces. What is the weight of Sute's cat in ounces?
a. 152 ounces c. 80 ounces
b. 116 ounces d. 33 ounces
17. The king cobra has a maximum length of 19 feet. How many inches long is this snake?
a. 684 inches c. 57 inches
b. 228 inches d. 38 inches
18. Which statement is NOT correct?
a. 25 in. > 2 ft c. 25 in. < 1 yd
b. 2 ft 5 in. < 34 in. d. 1 yd < 34 in.
19. At a tournament refreshment stand, a taco costs \$2.85, and a drink costs \$1.01. You want to buy 2 tacos and 2 drinks. You have \$9. Do you need an exact answer or is an estimate enough to decide if you have enough money? Solve.
a. estimate; The total cost is about \$10. You do not have enough money.
b. estimate; The total cost is about \$8. You have enough money.
c. exact answer; The total cost is \$7.72. You have enough money.
d. exact answer; The total cost is \$9.52. You do not have enough money.

20. Joy is making fruit punch. Will $\frac{3}{8}$ gallon of pineapple juice and $\frac{1}{4}$ gallon of orange juice fit in a 1-gallon punch bowl? Use an estimate to explain.

a. yes; $\frac{3}{8} < \frac{1}{2}$ and $\frac{1}{4} < \frac{1}{2}$, so $\frac{3}{8} + \frac{1}{4} < 1$.

b. no; $\frac{3}{8}$ gallon and $\frac{1}{4}$ gallon is about 2 gallons.

c. no; $\frac{3}{8} > \frac{1}{2}$ and $\frac{1}{4} > \frac{1}{2}$, so $\frac{3}{8} + \frac{1}{4} > 1$.

d. yes; $\frac{3}{8} + \frac{1}{4} < \frac{1}{2}$

21. Andrea walked 260 feet north. Then she turned and walked 603 feet west. Do you need an exact answer or is an estimate enough to determine about how many yards she walked? Solve.

a. exact answer; 201 yards

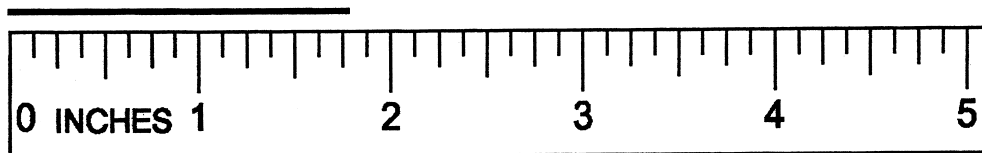
b. exact answer; 211 yards

c. estimate; about 200 yards

d. estimate; about 300 yards

22. Theresa says that the line segment below is 2 inches long. Did she measure it to the nearest

$\frac{1}{2}$ inch or nearest $\frac{1}{4}$ inch? _____



On the lines below, explain your reasoning.

23. A punch recipe calls for 1 gallon of fruit juice. Is 9 pints of juice more or less than 1 gallon?

Explain how you got your answer.
